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/William R. Allen/  
William R. Allen, Reg. No. 48,389

May 9, 2007  
Date

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

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|-------------------|---|-------------------|------|
| Applicants:       | Toshiharu Furukawa et al.   | Confirmation No.: | 6993 |
| Art Unit:         | 1756  |                   |      |
| Serial No.:       | 10/798,908  |                   |      |
| Examiner:         | Stephen D. Rosasco  |                   |      |
| Filed:            | March 11, 2004  |                   |      |
| Atty. Docket No.: | ROC9200300389US1  |                   |      |
| For:              | METHODS OF FORMING ALTERNATING PHASE SHIFT MASKS<br>HAVING IMPROVED PHASE-SHIFT TOLERANCE |                   |      |

Mail Stop Issue Fee  
Commissioner of Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

**COMMENTS ON STATEMENT OF REASONS FOR ALLOWANCE**

Sir:

Applicant's undersigned counsel notes the Examiner's Statement of Reasons for Allowance attached with the Notice of Allowability. The reasons set forth by the Examiner refer only to some of the features in independent claims 1, 27, 37, and 43, and are not the only reasons that all of the claims are allowable.

With respect to independent claim 1, the prior art fails to disclose or suggest a method of fabricating an alternating phase shift mask, comprising: forming a layer of a phase shift mask material on a handle substrate; patterning the layer to form a plurality of phase shift windows in the phase shift mask material; and transferring the patterned layer from the handle

substrate to a mask blank to construct the alternating phase shift mask. Dependent claims 2-26 depend either directly or indirectly from independent claim 1. Accordingly, each of dependent claims 2-26 is believed to be allowable based upon at least the allowability of independent claim 1 and, furthermore, upon other features set forth in dependent claims 2-26 but not discussed herein.

With respect to independent claim 27, the prior art fails to disclose or suggest an alternating phase shift mask produced by the process comprising: forming a layer of a phase shift mask material on a handle substrate; patterning the layer to form a plurality of phase shift windows in the phase shift mask material; and transferring the patterned layer from the handle substrate to a mask blank to construct the alternating phase shift mask. Dependent claims 28-36 depend either directly or indirectly from independent claim 27. Accordingly, each of dependent claims 28-36 is believed to be allowable based upon at least the allowability of independent claim 27 and, furthermore, upon other features set forth in dependent claims 28-36 but not discussed herein.

With respect to independent claim 37, the prior art fails to disclose or suggest a structure for forming an alternating phase shift mask comprising: a handle substrate; a mask blank; and a layer of a phase shift mask material disposed between said handle substrate and said mask blank, said layer including a plurality of phase shift windows extending through said phase shift mask material, and said layer characterized by a thickness and said phase shift mask material characterized by an index of refraction selected to provide a phase shift of approximately  $180^\circ$  for electromagnetic radiation traversing said plurality of phase shift windows. Dependent claims 38-42 depend either directly or indirectly from independent claim 37. Accordingly, each of dependent claims 38-42 is believed to be allowable based upon at least the allowability of independent claim 37 and, furthermore, upon other features set forth in dependent claims 38-42 but not discussed herein.

With respect to independent claim 43, the prior art fails to disclose or suggest an alternating phase shift mask comprising: a mask blank having a first surface; a layer of a phase shift mask material disposed on said mask blank, said layer including a second surface confronting said first surface and a plurality of phase shift windows extending through said phase shift mask material, said layer characterized by a thickness and said phase shift mask material characterized by an index of refraction selected to provide a phase shift of approximately 180° for electromagnetic radiation traversing said plurality of phase shift windows; and a fused interface joining said first surface of said mask blank with said second surface of said layer. Dependent claims 44-48 depend either directly or indirectly from independent claim 43. Accordingly, each of dependent claims 44-48 is believed to be allowable based upon at least the allowability of independent claim 43 and, furthermore, upon other features set forth in dependent claims 44-48 but not discussed herein.

If the Examiner disagrees with any of these comments, he is respectfully requested to provide further explanation on the record. Applicant does not believe that any fees are due in connection with this submission. However, if such petition is due or any fees are necessary, the Commissioner may consider this to be a request for such and charge any necessary fees to Deposit Account 23-3000.

Respectfully submitted,

WOOD, HERRON & EVANS, L.L.P.

/William R. Allen/  
William R. Allen, Reg. No. 48,389

2700 Carew Tower  
441 Vine Street  
Cincinnati, OH 45202  
(513) 241-2324  
(513) 421-7269 (facsimile)